USDA's 1997 Baseline: The Global Outlook to 2005

Robust growth in global import demand for agricultural products will be the driving force in international commodity markets through 2005. In USDA's global baseline, U.S. exports of high-value products (HVP's), including meats and horticultural products, will continue to show strong growth, generally outpacing bulk exports and accounting for a growing share of U.S. farm exports. Strong export growth is also projected for bulk commodities, particularly feed grains and wheat, driven largely by prospects for solid economic growth in developing countries.

U.S. bulk commodity exports are projected to expand more rapidly than during the 1985-95 period, helping to keep U.S. farm exports on a steady path of growth. International bulk commodity supplies will tighten, slowing the long-term downward trend in real prices (measured over the 1970-2005 period). The extent to which global supplies will respond in an environment of firmer prices is a key uncertainty in the outlook.

Macro Outlook Positive for Agriculture

Prospects for stronger economic growth in developing and transition economies, a consistent scenario across most vendors of global macroeconomic forecasts, are a key driver of USDA projections. Economic growth rates in Asia, the largest global and U.S. market for agricultural commodities, are expected to continue to lead the world through 2005. China and Southeast Asia are likely to remain the fastest growing areas of the world, fueling sustained rapid expansion of per capita incomes, food demand, and diet diversification. Although growth is likely to slow somewhat in East Asia—Hong Kong, Japan, South Korea, and Taiwan—it will remain sufficient to yield steady gains in demand for an increasingly diverse diet.

While strong Asian growth is not new to the outlook, the substantially improved economic prospects in other developing areas sets the 1997-2005 outlook apart from projections of the past 10-15 years. Significantly faster income growth is anticipated in Latin America (including Mexico), North Africa, and the Middle East during 1997-2005. This favorable outlook is supported by progress made in implementing and sustaining economic and institutional reforms in many countries across these regions. At the same time, it is heavily dependent on the continuation of reforms. For the Middle East and parts of North Africa, improved prospects are also linked to the forecast of strengthening real petroleum prices.

Another important factor distinguishing the next 10 years from the last is the restoration of positive rates of economic growth in the transition economies of the Newly Independent States (NIS)—the 12 republics of the former Soviet Union—and the Baltic states, and, particularly, Central and Eastern Europe (CEE). The variability and eventual collapse of effective demand in these countries was a key influence on global markets during the last 10 years. Restoration of positive, if slow, rates of income growth should halt the declines in food demand and stabilize trade. And especially in the NIS and Baltics, increased market orientation and constrained budgets should reduce volatility in both economic growth and food trade.

Developing Countries Shape Ag Demand Prospects

The relationship between per capita income growth and the pattern of consumer demand in developing countries is the most critical demand relationship influencing the long-term food outlook. Particularly important is the relatively strong growth in meat and feed demand that typically occurs in developing countries with per capita incomes of $500-$5,000—e.g., Brazil, China, Malaysia, Mexico, and Thailand. The sustained rapid economic growth projected in Asia, combined with improved growth in Latin America, North Africa, the Middle East, and CEE, will lead to robust expansion of per capita meat consumption and demand for feeds.

Since most countries, and particularly developing countries, tend to produce meat domestically rather than import it, most of the trade impact of this feed-livestock expansion will be in energy and protein feeds. Also, many of these countries are at the stage of economic growth where food demand for wheat and vegetable oils tends to increase most rapidly.

Developing countries play a key role in boosting longer term prospects for agricultural commodity demand. Developing countries' demand growth will exceed world demand growth for all major commodities except rice. Demand growth in developing countries is highest in feeds, meats, and vegetable oils. Compared with growth in developed countries, demand growth in developing countries is sharply higher for feed grains and meals.

A key uncertainty in the global food outlook is China's large and dynamic economy, specifically its future demand (and supply) prospects. With its large population, dynamic growth, uncertain future policies, weak data, and diverse food sector, China's long-term outlook is likely to remain uncertain.

The projections and discussion in this article are drawn from a presentation at USDA's 1997 Agricultural Outlook Forum held in Washington, D.C. on February 24-25, 1997. Long-term numbers were prepared in October through December 1996 and are published in USDA's *Agricultural Baseline Projections to 2005, Reflecting the 1996 Farm Act*, released in February 1997. A companion report, *International Agricultural Baseline Projections to 2005*, providing country-by-country details of USDA baseline trade data, is forthcoming.

What is USDA's Baseline?

Simply stated, USDA's annual baseline is a set of longrun, policy-dependent projections. The 10-year baseline is not a "forecast" in the traditional sense of the word. Few analysts, particularly those who worked on this baseline, would say with great confidence that wheat prices 9 years from now will average $4.80 per bushel, a number in the baseline. Rather, baseline projections are intended to outline the path the agricultural sector will take under a given set of assumptions.

The baseline provides a neutral backdrop, a reference scenario for assessing impacts of alternative developments. Baseline projections reflect current law, a specific set of macroeconomic assumptions, a continuation of current agricultural policy, and "normal" weather—no shocks to the system are assumed. From a traditional forecasting perspective, it is this "no shocks" assumption which most differentiates the baseline from a forecast. Most analysts would accept the notion that unforeseen changes will occur sometime during the baseline period.

A USDA interagency product, the baseline is a tool for departmental decision making regarding long-term budget estimates, agricultural policy implementation, alternative policy scenarios, and other agricultural issues. It allows for performance of sensitive policy analysis—e.g., what is the impact of an expanded European Union? or what is the impact of rapid economic growth in China?
Gerald A. Bange, Chairperson, World Agricultural Outlook Board, USDA

However, China provides a dramatic example of the pattern of food demand growth that occurs at a certain stage in developing countries. Food grain demand has shown little growth in per capita terms since the mid-1970's, while per capita demand for meats, feeds, and vegetable oils has soared. This pattern is expected to continue through 2005, with slower but still rapid growth in per capita meat and feed demand and little or no growth in per capita food use of wheat or rice.

Grain Area Up, Yield Trends Uncertain

Firmer prices and supportive policies are expected to lead to a recovery in global grain area during 1997-2005. In developed countries, the decline in grain area during 1980-95 was associated with sluggish global demand and supply management policies, primarily in the U.S. and the European Union (EU). During 1997-2005, grain area in developed countries is projected to rise with market incentives, increased planting in the U.S., and reduced land set-asides in the EU.

The transition economies—NIS and Baltics, and CEE—saw the largest declines in grain area during 1980-95. In these countries, grain area stabilizes and grows moderately during 1997-2005, predicated primarily on recovery of domestic, rather than foreign, demand. In general, the recovery in crop area is consistent with the pace of institutional and policy reform and occurs fastest in the Visegrad countries—Poland, Hungary, Czech Republic, Slovakia—and to a lesser extent, Russia.

In developing countries, the expansion of grain area slowed during 1980-95, but did not show the decline evident in other regions. Cropped area in developing countries is likely to continue to expand in areas where climate and water availability support additional intensive cultivation. Firmer prices are expected to contribute to grain area increases in both importing and exporting developing countries.

By commodity, the global crop area projections reflect the pattern of demand, with the strongest increases in coarse grain and wheat area. Rice area continues to reflect the slow upward trend in rice demand. Oilseed area growth is projected to slow as strengthening grain prices increase competition for land, slowing growth in soybean area and pulling some area out of rapeseed and other oilseeds.

Future trends in crop yields are probably the major uncertainty in the long-term outlook. Global yield growth appears to have slowed, although performance has varied by region, commodity, and time period. But how will investment in both variable and fixed inputs respond and raise yields in the longer term as prices strengthen?

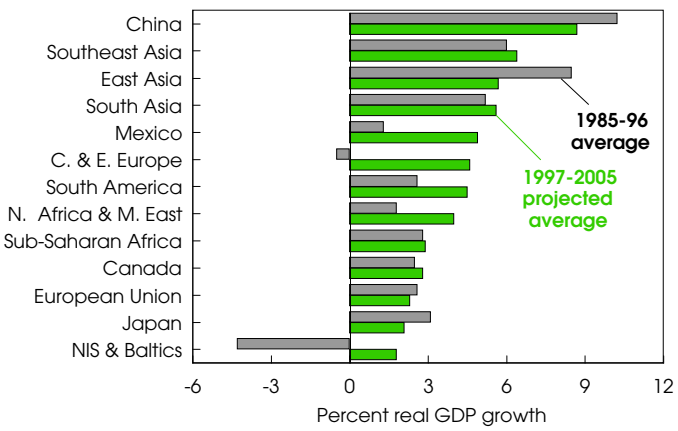
The impact of increasingly market-oriented farm policies in the U.S., other developed countries, and developing countries is unclear. In Latin America and other developing regions, it is unclear how the improving macroeconomic climate will affect agricultural investment and productivity. Further, it is increasingly difficult to predict the pace of development and adoption of biotechnology-related advances that will be coming into use in the future.

Qualified by these uncertainties, the NIS and Baltics, and CEE, are assumed to undergo a significant recovery in yields for major crops. Somewhat slower aggregate yield growth occurs in both developed and developing regions. Globally, wheat yield growth is projected to match the 1985-95 performance, and corn yield growth is projected faster, but these results are predicated largely on the anticipated, but highly uncertain, rebound in the transition economies. However, yield projections for the NIS and Baltics, and CEE, remain cautiously below historical highs, due in large part to uncertainty about the pace of reforms and prospects for productivity gains.

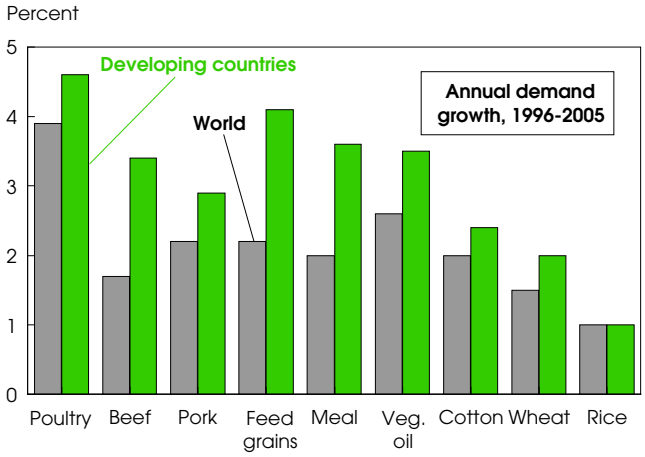
China is also expected to experience important yield growth. Official Chinese data indicate that yields for many crops, including wheat and corn, are high by world standards and suggest limited potential for future growth. However, there is also evidence to suggest that yields calculated from official data are biased upward because area harvested is significantly underestimated. The bias is judged to be particularly large for corn.

Strong Income Growth and Rising Demand for Meat Support Baseline Projections

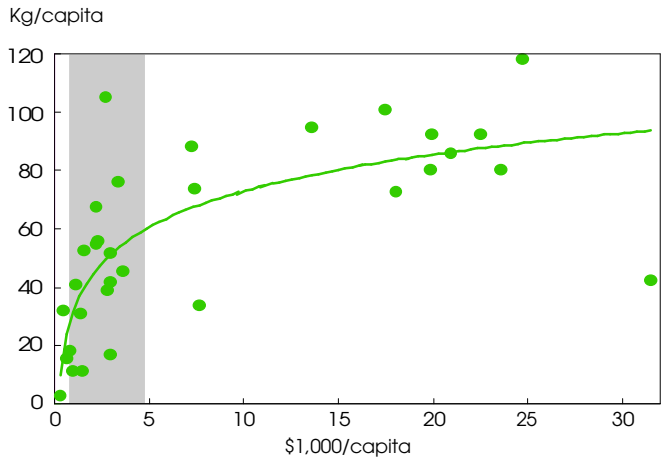
Global Economic Growth Continues Strong Through 2005



Developing Countries Lead Global Demand Growth

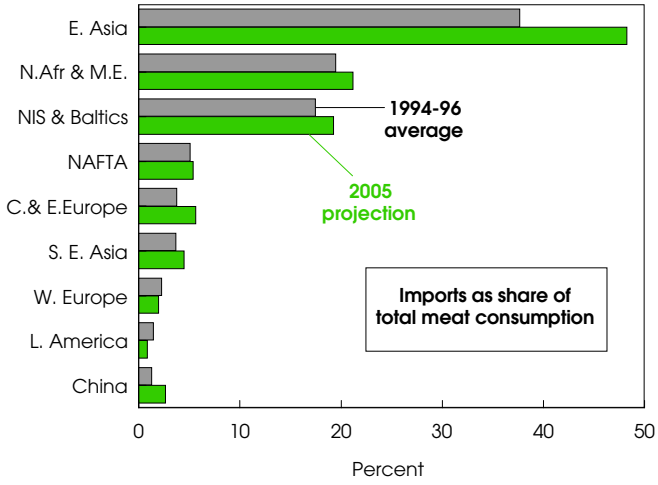


Meat Consumption Grows As Income Increases, Especially in Low-Income Countries

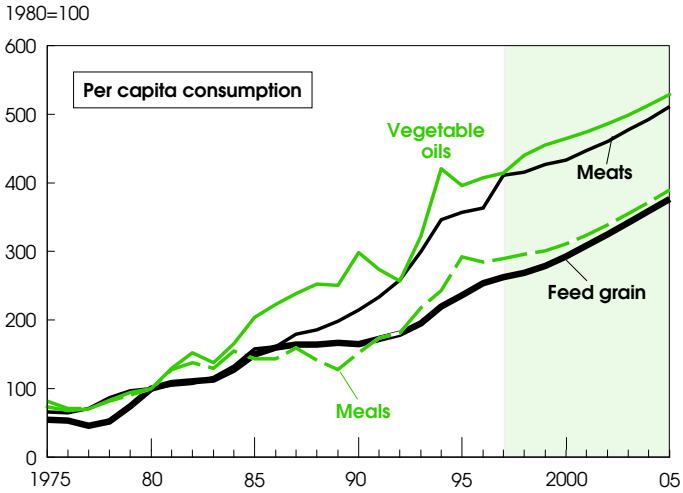


Observations for various countries, 1995.

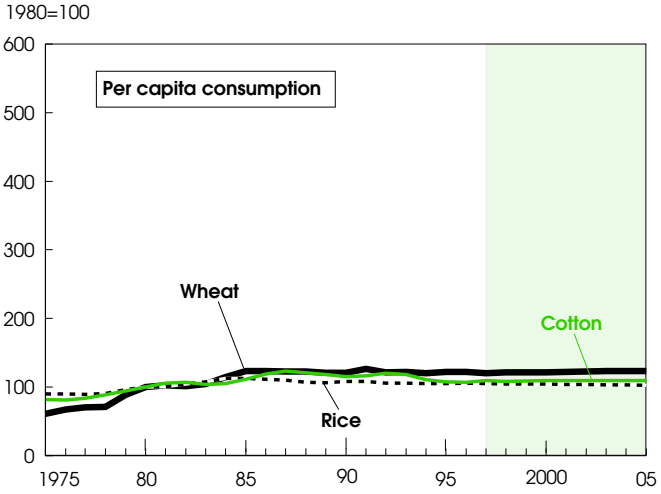
Most Countries Produce Their Meat Domestically



China's Demand for Meat, Feed, and Oils to Grow . . .



. . . and Food Grains and Cotton Demand Are Stable



1997 forecast; 1998-2005 projected.
Economic Research Service, USDA

As a result, USDA projections allow for substantial future yield growth from a lower level than indicated by official data. Results from China's agricultural census, currently underway, should help to clarify this issue.

Trade Prospects By Commodity

A summary of historical and projected growth rates in global imports shows that although growth is projected slower for several commodities, particularly some meats, projected demand remains strong for meats generally, and for feeds and wheat. Particularly important to the U.S. trade outlook is the stronger expected growth in import demand for coarse grain, wheat, and to a lesser extent, cotton.

Coarse grains. Broad-based growth in coarse grain import demand will support the expanding feed-livestock sectors across developing regions, including China, South and Southeast Asia, Latin America, North Africa, and the Middle East. China's coarse grain imports are projected to rise more than 10 percent annually, and South and Southeast Asian imports, about 9 percent annually.

Annual growth in other developing regions is expected to be more modest, in the 3-4-percent range. East Asia, by far the largest regional feed grain market, is expected to show very little growth, as trade reforms make local meat production uncompetitive and a rising share of meat consumption is imported. EU imports are also likely to remain relatively flat, due to sluggish growth in domestic meat demand and to export constraints imposed by Uruguay Round (UR) export subsidy limits.

The NIS and Baltics, a key source of instability in global coarse grain trade during the 1980's and early 1990's, are expected to be a small player in the market during 1997-2005. Meat demand and production recovers slowly, and domestically produced meat remains uncompetitive with imported meats in key markets. With a smaller market presence and severe financial constraints, the NIS and Baltics are unlikely to be as large a source of instability in global coarse grain markets during the projection period.

The U.S. is expected to maintain its dominant two-thirds share of the global coarse grain market. EU competition, primarily barley, is likely to be constrained by the UR export subsidy limits throughout the projection period. While Argentina is expected to boost its corn exports, other traditional competitors are expected to be restrained by competition for cropland. The transition economies, primarily in CEE, are expected to be emerging competitors after 2000 when gains in U.S. corn area slow and prices strengthen.

Soybeans and meal. The long-term expansion of feed-livestock sectors in developing Asia, Latin America, North Africa, and the Middle East is expected to drive steady, robust growth in demand for soybeans and meal. Developing Asia, particularly China and Southeast Asia, is expected to be the fastest growing market, with imports expanding about 8 percent annually. Gains in these developing regions are projected to more than offset sluggish growth in feed demand in East Asia and the EU-15.

As was the case during the early 1990's, U.S. soybeans and meal are expected to maintain market share against South American competitors, with the U.S. share averaging 43-44 percent. Large gains in U.S. soybean yields relative to Argentina and Brazil are expected to continue to underpin U.S. supplies and competitiveness, particularly during the next 5 years.

Wheat. As with feeds, income gains in developing countries are expected to drive stronger growth in wheat trade during 1997-2005. In many developing countries, per capita wheat consumption remains responsive to rising incomes and urbanization, while capacity to produce wheat efficiently is limited.

In China, although per capita wheat consumption is not expected to grow, imports are expected to expand about 4 percent annually as water shortages continue to inhibit yield gains. The North Africa and Middle East market, also expected to sustain 4-percent annual import growth, is another key to wheat trade prospects. Wheat demand will respond to faster income growth in most of North Africa and the Middle East.

Limited production gains are expected in some countries because of limited potential for area or yield gains, and because market-oriented reforms are reducing government support. As with coarse grains, the NIS and Baltics will be a relatively small player in the global wheat market during 1997-2005.

The U.S. wheat market share will recover from its 1996 decline and remain near its recent average of 34 percent through 2005. Prospects for U.S. wheat market share are closely linked to EU policy developments. EU market share is expected to drop until about 2001, as its exports are constrained by UR export subsidy limits, but then rise when world prices are high enough to permit unsubsidized exports.

Gains in EU market share after 2000 are expected to come at the expense of less competitive emerging exporters, rather than U.S. sales. This scenario assumes a 12-percent EU land set-aside for 1998-2005, moderate appreciation of the European Currency Unit against the dollar, and limited changes to the administration of existing EU wheat intervention policies to permit internal market prices to drift below the intervention price (EU farm support price).

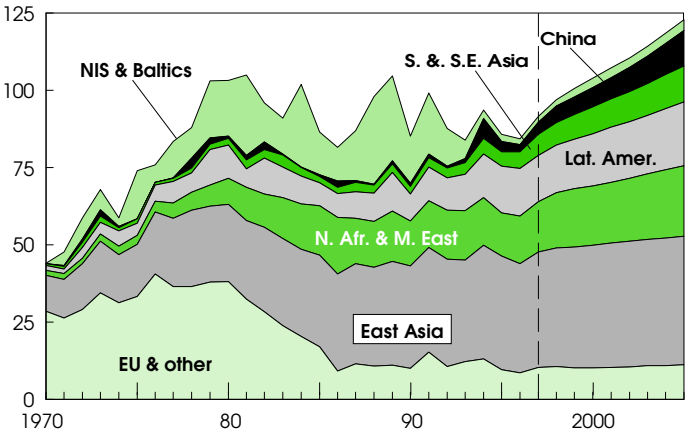
A smaller EU set-aside could increase its competitiveness after 2001, but would likely lead to rising supplies of barley that would be uncompetitive with wheat for domestic feed use and not exportable under UR export subsidy limits. A change in the EU Common Agricultural Policy to reduce the wheat intervention price would also increase EU competitiveness, but is considered unlikely outside of a formal enlargement agreement with CEE countries.

Rice. World rice trade expanded sharply during the early 1990's, in part because Japan and South Korea began importing rice under the terms of the UR agreement, and also because two large markets—China and Indonesia—increased their

Global Import Demand Projected to Grow For Most Ag Commodities

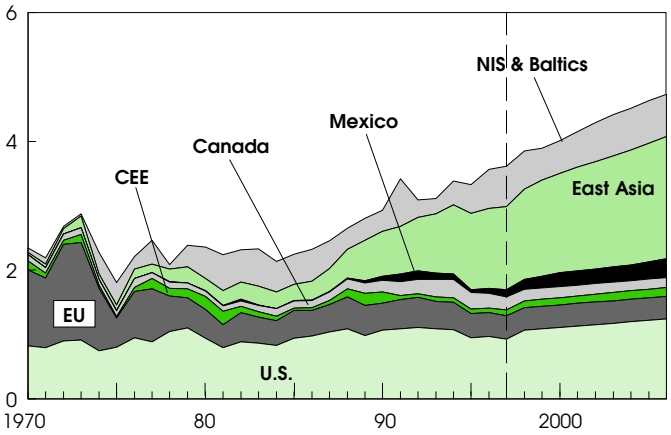
Coarse Grains

Million tons



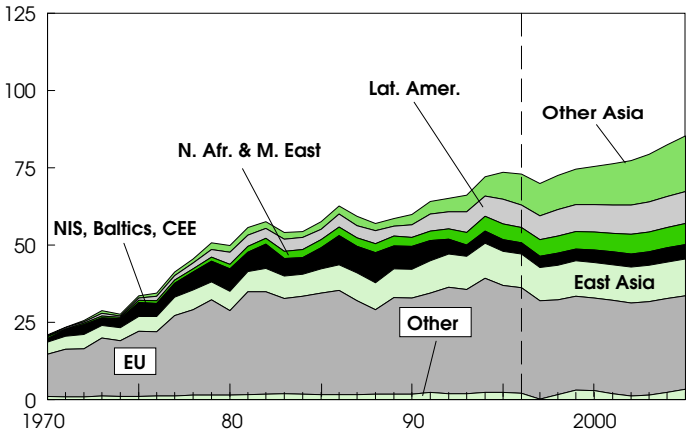
Beef

Million tons



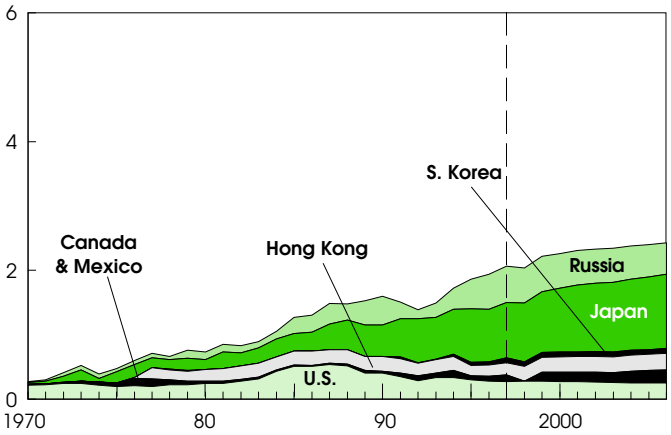
Soybeans and Meal

Million tons



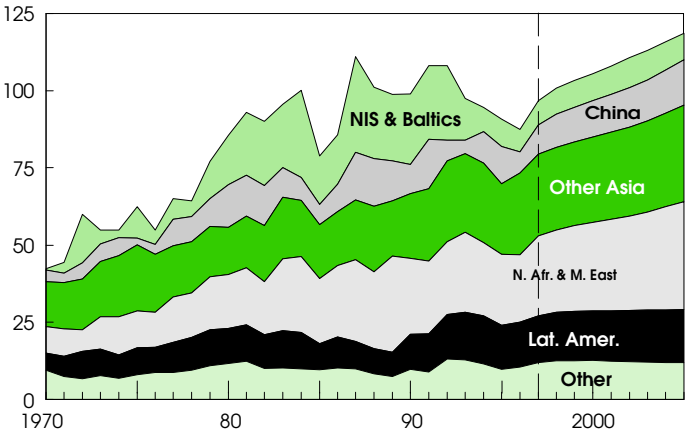
Pork

Million tons



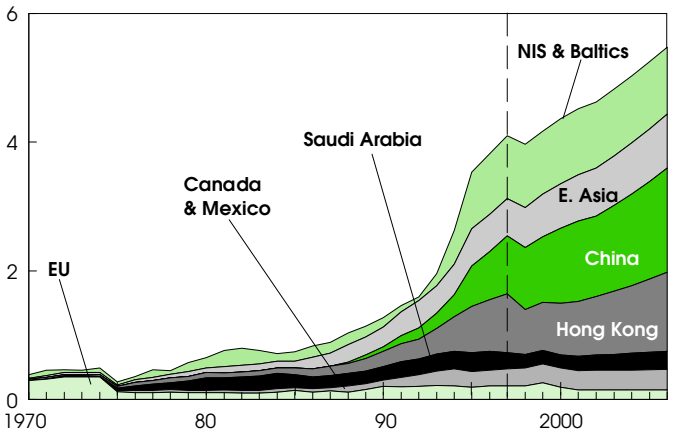
Wheat

Million tons



Poultry

Million tons

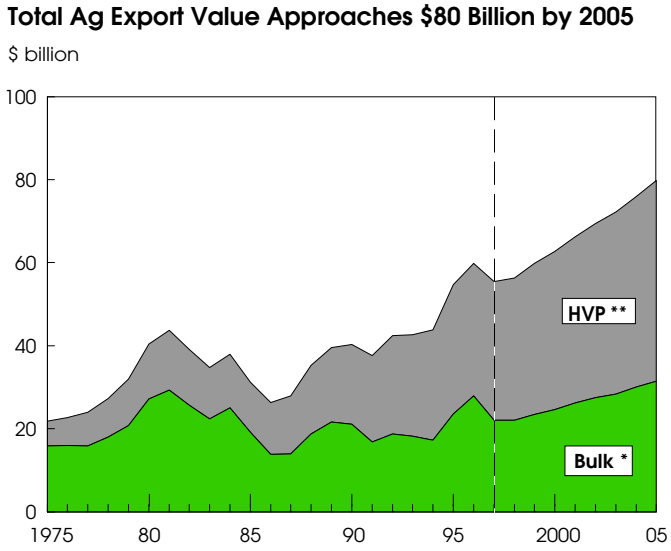


1997 forecast; 1998-2005 projected
Economic Research Service, USDA

Agricultural Economy

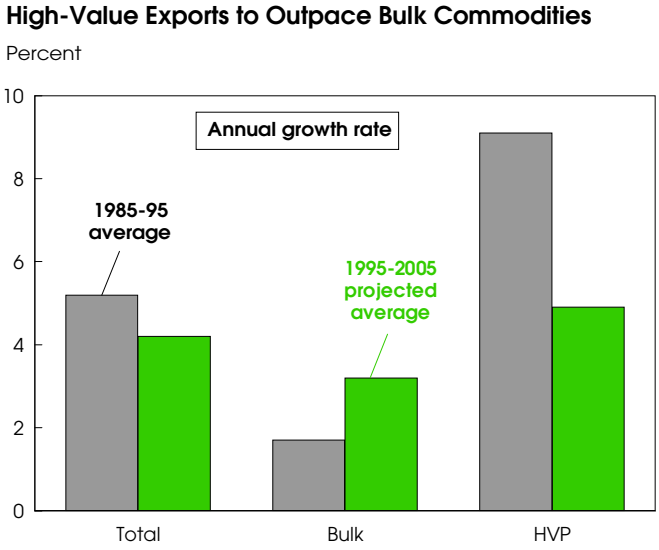
Value of U.S. Agricultural Exports To Grow

Total Ag Export Value Approaches $80 Billion by 2005

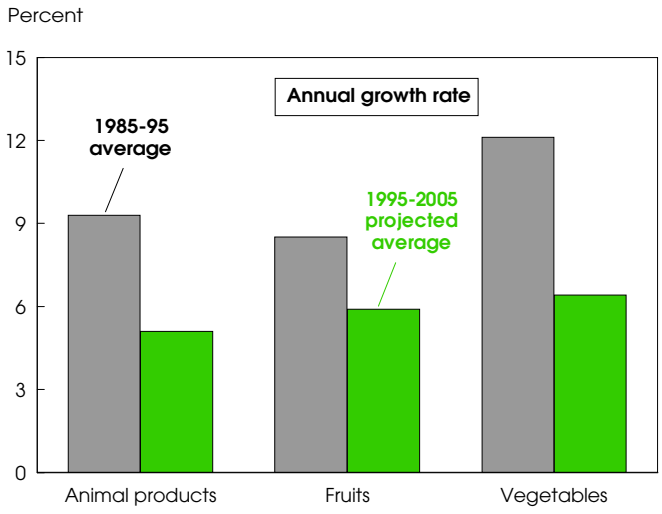


1997 forecast; 1998-2005 projected.
*Wheat, rice, feed grains, soybeans, cotton, and tobacco. ** Primarily livestock and meat, fruits and vegetables, processed foods, juices, and feeds and fodder.

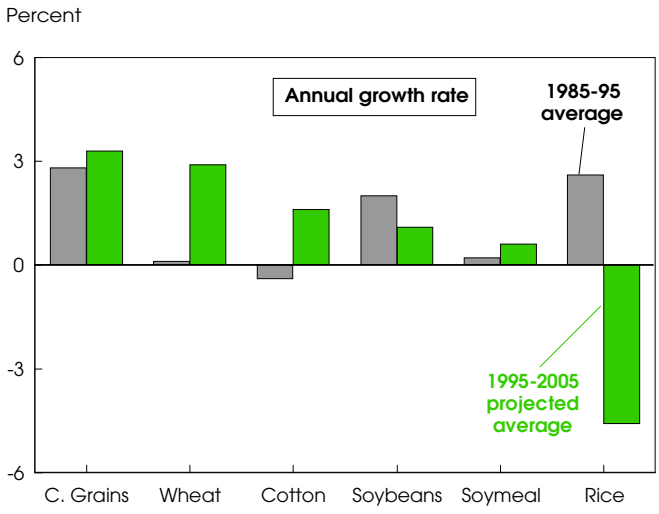
High-Value Exports to Outpace Bulk Commodities



Vegetables and Fruit to Lead HVP Export Growth



Coarse Grains and Wheat to Set Pace for Bulk Exports



Economic Research Service, USDA

purchases. These markets will grow slowly from their new levels. In addition, import demand in Latin America, and particularly North Africa and the Middle East, will also respond to stronger income growth.

The higher level of rice trade during the early 1990's was supplied, to a large extent, by uncharacteristically large exports from Vietnam and India. Both of these countries, along with Burma, will sustain their higher market shares through 2005. U.S. market share is expected to decline because of rising domestic consumption and lower planted area expected under the 1996 Farm Act.

Meats. The long-term outlook for global beef, pork, and poultry trade is largely dependent on developments in three large markets: East Asia, the NIS and Baltics, and for poultry, China. East Asian meat imports, dominated by Japan (beef, pork, and poultry) and South Korea (beef), expanded rapidly during the 1980's in response to strong consumer demand and negotiated increases in market access.

Based on already ratified multilateral trade agreements, East Asian meat import demand will grow steadily, as imports continue to substitute for relatively high-cost local production. However, import growth will remain slower than during the 1980's and early 1990's unless additional market access is negotiated.

Large imports by the NIS and Baltics, principally Russia, were also a significant feature of world meat markets during the 1980's. The collapse of inefficient domestic production, combined with the availability of credits and subsidies for imports from the EU and the U.S. was the key factor in this trade. For 1997-2005, NIS and Baltics import demand will grow steadily, based on very modest growth in consumer demand combined with very slow progress in the development of beef, pork, or poultry sectors that can compete effectively with imports. A decline in the availability of subsidized meat exports from the EU will be a significant constraint on growth in NIS and Baltics pork and beef imports.

Imports by China, both direct and via Hong Kong, have been a source of rapid poultry trade expansion during the early 1990's. The rate of future growth in this trade is very unclear, in part because of uncertainty about how Hong Kong's accession to China will affect the administration of trade via Hong Kong. It is also possible that limitations imposed by inadequate refrigerated transport and storage may eventually slow trade growth. China's poultry imports slow from recent rates, but continue to show strong (10-percent) annual growth.

U.S. beef, pork, and especially, poultry have been very competitive in world markets, capitalizing on new market opportunities to grow more than 20 percent annually in volume during 1985-95. U.S. meat products are expected to remain highly competitive during 1997-2005. But given the outlook for slower growth in imports by East Asia, the NIS and Baltics, and China, and the baseline assumption of no new market access agreements, U.S. meat export growth is projected to slow significantly. U.S. meat export volume grows about 6 percent annually, with value growing somewhat more slowly, as lower quality products continue to account for a growing share of U.S. exports.

Cotton. After showing little growth from 1985 to 1995, world cotton trade is projected to expand about 1.2 percent annually during 1997-2005, the result of strengthening developing-country demand and prospects for slow production growth in the NIS and Baltics, and China. Import demand in more developed regions, including East Asia, will continue to slide, as spinning moves to lower cost regions. These declines are expected to be more than offset by rising imports in Southeast Asia, Latin America, and China. Slow growth in both imports and exports is expected for the NIS and Baltics, as demand gradually strengthens and only limited production gains are achieved.

The U.S. is projected to remain the largest exporter of raw cotton, maintaining roughly a 25-percent market share, while many competitors reduce raw cotton exports and channel supplies into consumption or exports of textiles and value-added products.

U.S. Export Outlook Remains Robust

The nominal value of U.S. farm exports grows at a robust 4-percent annual rate during 1995-2005, reaching nearly $80 billion by 2005. High-value products (HVP's) continue to lead the growth in U.S. agricultural exports, expanding about 5 percent annually. U.S. bulk commodity exports are also projected to show strong gains—more than 3 percent per year.

Each of the major categories of U.S. HVP exports—meats, fruits, and vegetables—is expected to show strong, steady annual growth of 5-7 percent in value terms. These U.S. products are expected to remain highly competitive in their major markets, primarily East Asia, Canada, and Mexico. However, U.S. exports of these products are unlikely to sustain the rapid pace of the past 10 years, particularly since no new market access agreements are assumed to occur. During 1985-95, market opening agreements with East Asian countries and NAFTA partners made these markets the key sources of U.S. HVP export growth.

Significantly stronger annual growth in the value of bulk commodity exports is expected to be a key source of strength in the U.S. trade outlook, and in the rural economy. Faster growth and firmer prices than during the last 10 years are projected for U.S. exports of most bulk commodities, particularly coarse grains, wheat, and cotton. However, unlike HVP exports, which generally depend on the more stable income and food demand growth of higher income markets, bulk commodity demand and prices will be closely linked to the more fragile prospects for economic growth in developing and transition economies.

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USDA's Agricultural Baseline: The Assumptions

USDA's 10-year baseline projections cover agricultural commodities, agricultural trade, and aggregate indicators such as farm income and food prices. The projections in the current report, *Agricultural Baseline Projections to 2005, Reflecting the 1996 Farm Act,* were completed in December 1996 and reflect a composite of model results and judgmental analysis of the agricultural sector through the year 2005. The projections reflect major agricultural policy decisions made through mid-November 1996 and include short-term projections from the November 1996 *World Agricultural Supply and Demand Estimates.*

The baseline projections incorporate provisions of the 1996 Farm Act and assume the new law is extended through the end of the baseline in 2005. These projections provide a starting point for discussion of alternative farm policies. The categories of critical long-term assumptions in the baseline include: U.S. and international macroeconomic conditions; U.S. agricultural and trade policies; funding for U.S. agricultural export programs; foreign economic, agricultural, and trade policies; growth rates of U.S. and foreign agricultural productivity; and normal (average) weather.

Changes in any of these assumptions can significantly alter the projections, and actual conditions that emerge will alter the outcomes. Among the more critical assumptions are those involving agricultural policy and macroeconomic conditions.

The Conservation Reserve Program (CRP), reauthorized in the 1996 Farm Act, sets maximum CRP area at 36.4 million acres. The new law permits the Secretary of Agriculture to re-enroll current land at contract expiration and to enroll new land to replace acreage leaving the CRP through expired contracts or early termination.

Over 20 million acres of CRP contracts expire in 1997. Enrollments in 1997 are assumed to keep the CRP from falling below 30 million acres. Enrollments in subsequent years are assumed to gradually increase the CRP to over 36 million acres by 2001.

The baseline assumes full compliance with all bilateral and multilateral agreements affecting agriculture and agricultural trade. Projections assume full compliance with the internal support, market access, and export subsidy provisions of the Uruguay Round GATT Agreement. The baseline assumes no accession to the World Trade Organization by the Newly Independent States (NIS) of the former Soviet Union, the Baltics, China, or Taiwan; no enlargement of the European Union (EU) beyond its current 15 members; and no expansion of the North American Free Trade Agreement.

Agricultural and trade policies in individual foreign countries are assumed to continue to evolve along their current paths.

The baseline assumes that no new bilateral or multilateral agreements occur during the 1997-2005 period. Although a number of such agreements could emerge, given the World Trade Organization (WTO) mini-round scheduled for 1999 and potential agreements on WTO accession and EU-15 enlargement, the provisions and timing of potential agreements are uncertain.

Annual quantity and expenditure levels for the Export Enhancement Program (EEP) are assumed to be in compliance with GATT reductions, which require that by 2000, subsidized exports be reduced by 21 percent in volume and by 36 percent in budget outlays from 1986-90 levels. However, the 1996 Farm Act reduced total EEP funding during fiscal years 1996-99 from the maximum levels permitted under the GATT agreement. The 1997 Agriculture Appropriations Act further lowered the fiscal 1997 EEP level.

The 1996 Farm Act authorizes P.L. 480-Title I agreements with private entities in addition to foreign governments and broadens the range of commodities available for P.L. 480 programs. Total P.L. 480 program levels are assumed constant in the baseline for fiscal 1998 and later years. Program levels for other trade promotion and credit programs, including the Market Access Program and the GSM-102 and GSM-103 credit guarantee programs, are assumed constant in the baseline.

Domestic macroeconomic assumptions include deficit reduction that balances the Federal budget by 2002. This results in lower interest rates, higher productivity, and stronger growth in Gross Domestic Product. Baseline global economic growth averages about 3 percent annually over the next decade, well above growth during the first half of the 1990's. Macroeconomic growth in developed countries averages about 2.5 percent through 2005 as these economies rebound from growth slowdowns in the mid-1990's.

Market reforms lead to projected economic growth for the NIS and Baltics, and for the countries in Central and Eastern Europe, following years of economic decline during the transition from centrally planned economies. Aggregate growth for developing countries over the next 10 years is projected to average about 5.5 percent, somewhat faster than over the past decade.

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